Dr. J. A. Ryle

referred to the remarkable pioneer contributions of Gull and Sutton, and Mahomed. It was clear from their observations that they appreciated that form of Bright's disease in which renal changes were of slight importance and the arterial changes of great importance. Mahomed was among the first to draw attention to the value of blood-pressure observations in disease; he regarded raised blood-pressure as an essentia feature of the disease under discussion; and also emphasized the importance of looking for the beginnings of trouble in early life. Both Gull and Sutton, and Mahomed, referred to the cardiac hypertrophy and the occurrence of death from heart failure and cerebral hæmorrhage as opposed to uræmia.

Proceeding to discuss the question of diathesis in hyperpiesia he (the speaker) suggested as a definition of diathesis "a tendency, based on physiological and anatomical characters, to retain the impress of certain adverse stimuli." He had recently analysed a series of fifty cases of hyperpiesia in which he had obtained the history and made a careful routine overhaul himself. No cases were included of hyperpiesis due to renal disease or other than arterial disease. The systolic pressure was 170 or over in every case; the diastolic pressure 100 or over in every case but one. Forty-six per cent. of the cases were males, 54 per cent. females. The youngest of the males was aged 21, the oldest 68, the average age being 57.

Among the females the youngest was aged 28, the oldest 72, the average being 53. He classified the cases according to physical type. Sixty-two per cent. (both sexes together) were noted as "robust," healthy, stout, plethoric or "hypersthenic"; 18 per cent. as "average," 16 per cent. as "of poor physique," 4 per cent. as "lean and nervous." The anatomical features of the hypersthenic diathesis were a broad chest, a wide epigastric angle, frequently a healthy complexion and a short neck. The physiological characters were a hypertonic stomach and good tone of all plain and skeletal musculature. It had been shown in America that 10 per cent. of healthy students had a hypertonic stomach. He (the speaker) and Dr. Bennett had found a similar percentage of healthy students with hyperchlorhydria. Lord Dawson had quoted other figures suggesting that about 10 per cent. of healthy subjects showed a blood-pressure above normal limits for their age. He (Dr. Ryle) would therefore suggest that there was in certain individuals a physiological trend in the direction of hypertonus of plain muscle and so, incidentally, of raised pressure. These subjects often had great capacity for work and also were apt to over-eat and to grow stout on account of their lusty appetite. As a result they were more liable than others to acquire, and to retain as a permanency, a state of raised pressure.

In the group described as "of poor physique," and some of the "average" cases, infections appeared to play a much more important part. In the "lean and nervous" group emotional factors were common. Two small groups were, he thought, worthy of special consideration. One of these was the menopausal group, and seven out of the twenty-seven female subjects in his series were noted as menopausal cases. In these, probably, endocrine factors played a part. Finally there was the youthful group, but he regarded these as exceptional.

Of his three youthful cases one was a student, aged 21, with a blood-pressure of 180 systolic, 110 diastolic. He had various hyperpietic symptoms, including anxiety and a consciousness of his heart. At a later stage he came under the care of a colleague, he was suffering from obscure pyrexia and as it was thought that he might be tuberculous he was sent away for a long holiday. He had now returned to work, but the speaker had had no further opportunity of investigating his case.

The two remaining cases were females, one of whom he had watched for two years. She was aged 29, had a blood-pressure of 250 systolic, 150 diastolic. She was pale, unhealthy, easily tired, constipated, and had lived a life of consistent over-work since childhood. At times she had pyrexial attacks of uncertain causation. The other, aged 28, had a systolic pressure of 180, severe headaches, and, at one time, vomiting, for which an appendicectomy had been performed. Anxiety and mental unbalance were strongly-marked features.

He (the speaker) thought that these observations suggested that at present it was more profitable to study "the soil" in hyperpiesia than to seek for "the seed"—or in other words a specific causal agent—in the laboratory.

Dr. D. C. Hare.

The Variations of Blood-pressure Readings studied under Uniform Conditions.

I wish to call attention to the fact that the variations in blood-pressure readings in any individual under uniform conditions may be considerable, and that the range of these variations is greater than is commonly recognized to be the case. The point is important and must be taken into consideration when basing conclusions on isolated observations in individuals, and it also calls for caution in the acceptance of a lowered figure as being the result of any therapeutic measures which may have been adopted.

Variations obtained at One Sitting.

The figures I shall give are the variations in consecutive readings made at one sitting. These show that variations of both systolic and diastolic readings up to

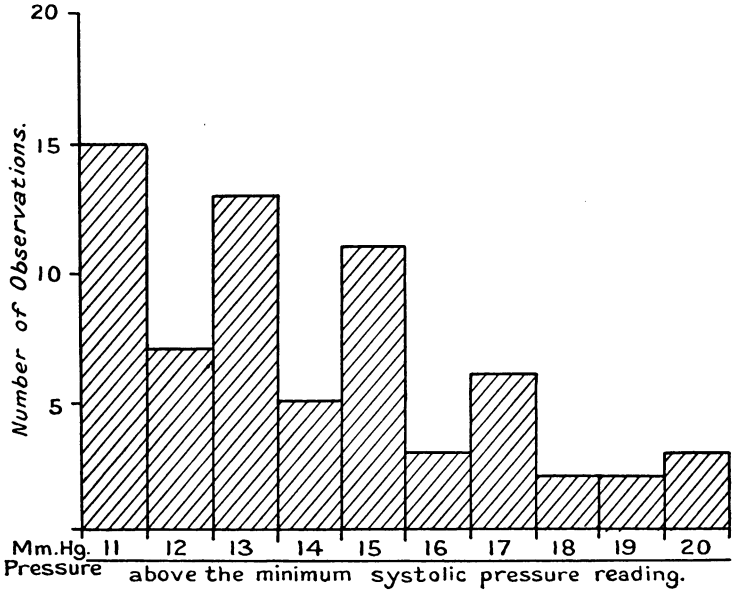

Chart I.—Incidence of variations of more than 10 mm. Hg pressure in systolic readings made at one sitting under uniform conditions in normal women. Total incidence 72 (31 per cent.); total sittings 228; total patients 60.

20 mm. may be obtained. In the tables I have only used figures of over 10 mm. variation. It would be generally acknowledged, I think, that variations of less than 10 mm. are of common occurrence, and that no importance can be attached to them, though not long ago I heard a speaker at a scientific meeting claim to have lowered the systolic pressure by 5 to 10 mm. as the result of treatment.

Source of Figures.

The figures are drawn from a series of normal women in whom I have been investigating cardio-vascular conditions during the course of pregnancy, and who are seen at intervals of about four weeks. All included in the series have been seen